

REMARKS

Upon entry of the present amendment, claims 1-15 will have been cancelled and claims 16-31 will have been submitted for consideration by the Examiner. In view of the herein contained amendments and remarks, Applicants respectfully request reconsideration and withdrawal of each of the outstanding objections and rejections set forth in the above-mentioned Official Action, together with an indication of the allowability of all the claims pending in the present application. Such action is respectfully requested and is now believed to be appropriate and proper.

Initially, Applicants wish to thank the Examiner for accepting the drawings filed on June 26, 2004. Applicants further wish to thank the Examiner for acknowledging their Claim for Foreign Priority under 35 U.S.C. § 119 as well as for confirming receipt of the certified copy of the priority document.

Applicants further note the filing of an Information Disclosure Statement in the present application on September 25, 2003 as well as the filing of a Supplemental Information Disclosure Statement in the present application on February 18, 2005. Applicants respectfully request that as part of the next official communication from the U.S. Patent and Trademark Office in the present application, the Examiner explicitly confirm consideration of the documents cited in the above-noted Information Disclosure Statements.

Additionally, Applicants note that the pending application cited in the Information Disclosure Statement of September 25, 2003 has now issued as a patent. Accordingly, Applicants respectfully request that the Examiner cite and list on a PTO-1449 Form U.S. Patent No. 6,859,010 that issued on February 22, 2005 to confirm consideration of the

application cited in the Information Disclosure Statement of September 25, 2003. Since each of these Information Disclosure Statements was filed in full compliance with 37 C.F.R. § 1.97 and 1.98, Applicants respectfully submit that consideration of each of the documents cited therein is appropriate and proper and is thus respectfully requested.

In the outstanding Official Action, the Examiner noted that claims 1-18 are presented for examination. However, only claims 1-15 were previously pending in the application.

In the outstanding Official Action, the Examiner objected to the Abstract of the Disclosure and required correction. By the present Response, Applicants have revised the Abstract and have submitted a new Abstract that eliminates the basis for the Examiner's objection thereto. Accordingly, reconsideration and withdrawal of the objection to the specification is respectfully requested.

In the outstanding Official Action, claims 1-10 and 13 were rejected under 35 U.S.C. § 102(e) as being anticipated by HULDEN (U.S. Patent Publication 2004/0193339). Claims 11 and 12 were rejected under 35 U.S.C. § 103 as being unpatentable over HULDEN in view of SONG et al. (U.S. Patent No. 6,496,754).

The Examiner indicated that claims 14 and 15 were objected to for being dependent upon a rejected base claim but indicated that these claims would be allowable if rewritten into independent form including the limitations of the base claim and any intervening claims.

Applicants note with appreciation the Examiner's indication of allowable subject matter but respectfully submit that each of the claims in the present application is clearly patentable over the references of record herein. Thus, Applicants respectfully traverse

the Examiner's rejections, request reconsideration and withdrawal thereof, and respectfully request an indication of the allowability of all the claims pending in the present application.

By the present Response, Applicants have cancelled all of previously pending claims 1-15 and have submitted claims 16-31 for consideration by the Examiner. These new claims have been written to more particularly and clearly define the features of Applicants invention, but are not intended to narrow the scope thereof.

In particular, by the present Response, Applicants have incorporated the features of previously pending claim 14 into the independent claim corresponding to the claim from which it depended. Accordingly, claim 28 is now submitted to be allowable at least in accordance with the reasons set forth by the Examiner in the outstanding Official Action.

Claim 16 has been written to more clearly distinguish over the features of the HULDEN reference based upon which claim 1 was rejected. In particular, claim 16 recites that the plurality of sensors are mounted so as to be moveable up and down with respect to the body of the cleaning robot. It is respectfully submitted that at least this feature, in the claimed combination, is not taught, disclosed nor rendered obvious by HULDEN.

In discussing the application of the HULDEN reference with respect to claim 13, the Examiner asserted that a sensor hiding unit is provided therein to move the sensor assembly up and down. The Examiner made reference to Figs. 1 and 2. However, it is respectfully submitted that the Examiner's interpretation of HULDEN as including a sensor hiding unit or any other mechanism configured to move the sensors up and

down is not supported by the disclosure of HULDEN. In this regard, HULDEN discloses, in the paragraph bridging pages 2 and 3, the use of an ultrasonic transmitter 10 and ultrasound, echo sensor microphone units 12 and 13. However, as can clearly be seen with respect to Figs. 1 and 2, the transmitter and the microphone units are fixedly mounted to the outer surface of the body cleaning device. There is no teaching whatsoever of either a rotational cylinder as recited in claim 1 with plural position information sensors mounted thereon or of a cylinder moving mechanism as recited in claim 1. Accordingly, for each of these reasons and certainly for all of the above reasons, it is respectfully submitted that claim 16 is clearly patentable over the Examiner's cited HULDEN reference. In addition, it is respectfully submitted that the claims in the present application are clearly patentable over all of the references cited by the Examiner, when taken in any proper combination.

Applicants note the Examiner's Statement of Reasons for allowance set forth with respect to claims 14 and 15. In this regard, while Applicants do not disagree with any of the features noted by the Examiner, Applicants further point out that each of the claims in the present application recites a particular combination of features and that the basis for patentability of each claim is also based on the particular totality of the features recited therein. Accordingly, the reasons for allowance should not necessarily be limited to those features enumerated by the Examiner.

By the present Response, Applicants have submitted new claim 31 for consideration by the Examiner. This claim is submitted to be patentable over the references of record therein based upon the combination of features recited in claim 31.

P23884.A04

Accordingly, Applicants respectfully request reconsideration of each of the outstanding rejections and an indication of the allowability of all the claims pending herein, in due course. Such action is respectfully requested and is now believed to be appropriate and proper.

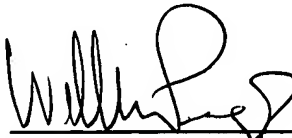
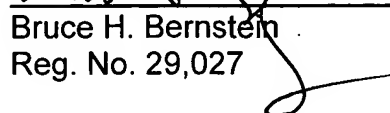
SUMMARY AND CONCLUSION

Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so. Applicants have submitted a new Abstract for consideration and for entry into the present application. Applicants have further requested consideration of the documents cited in the Information Disclosure Statements filed in the present application.

Applicants have amended the claims in the present application and have discussed the features thereof with respect to the disclosures of the references applied thereagainst. Applicants have discussed the teachings of the reference and have pointed out the shortcomings thereof with respect to the features cited in Applicants claims. Accordingly, Applicants have provided a clear evidentiary basis supporting the patentability of all the claims in the present application and respectfully request an indication to such effect in due course.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
Chun-Kyu WOO et al.

 **William Pieprz**
Reg. No. 33,630

Bruce H. Bernstein
Reg. No. 29,027

May 27, 2005
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191